



Name: _____
 Mr. Tiénou-Gustafson, Mr. Biellemer
 Geometry, Period _____
 Due Date: Wed, 1 Oct 2014

HW26_Midpoint-Endpoint

**Geometry
Homework**

Form A

Failure to show work on all problems or use complete sentences will result in a LaSalle.

1. Find the other endpoint of the line segment with the given endpoint and midpoint.

Endpoint: $(-1, -7)$, midpoint: $(-1, -9)$
 $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = (x_m, y_m)$

$\frac{x_1 + x_2}{2} = x_m$ $\frac{y_1 + y_2}{2} = y_m$

3. The midpoint of XZ is $M(1, 2)$. One endpoint is $X(0, -2)$. Find the coordinates of endpoint Z .

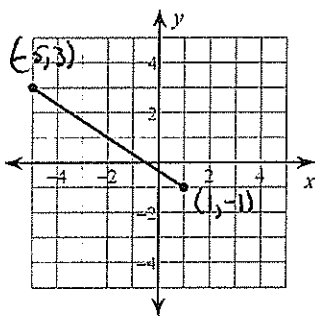
Midpoint form $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = (x_m, y_m)$

2. Find the other endpoint of the line segment with the given endpoint and midpoint.

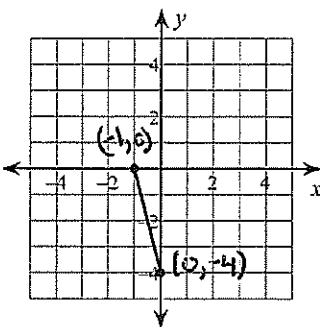
Endpoint: $(2, -10)$, midpoint: $(5, 2)$ Same steps as problem one

4. The midpoint of AB is $M(8, -8)$. One endpoint is $A(-4, 10)$. Find the coordinates of endpoint B .

5. Find the midpoint.



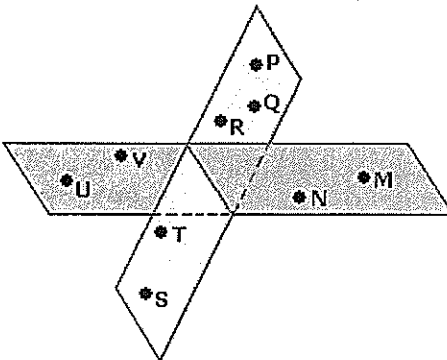
6. Find the midpoint.



7. On a particular line segment, points Q , R , and S are collinear, and R is between Q and S .

- Draw the line segment.
- If $QR = 8$ cm and $RS = 13$ cm, what is the measure of QS ?
- If $QS = 31$ inches and $RS = 7$ inches, what is the measure of QR ?

8. Choose the correct statement/statements.



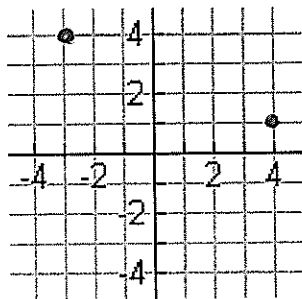
- P , Q , R , U , and V are coplanar
- U , V , N , and M are collinear
- P , Q , R , T , and S are coplanar
- M , N , T , S and P are coplanar

- III and IV only
- I and II only
- I only
- III only

9a) A line passes through the points $(-3, 4)$ and $(4, 1)$. What is the slope of this line?

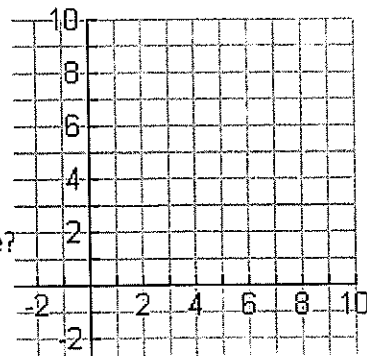
$$m = \frac{\text{rise}}{\text{run}}$$

Sketch the line:



10a) Find the slope between $(8, 10)$ and $(8, -2)$.

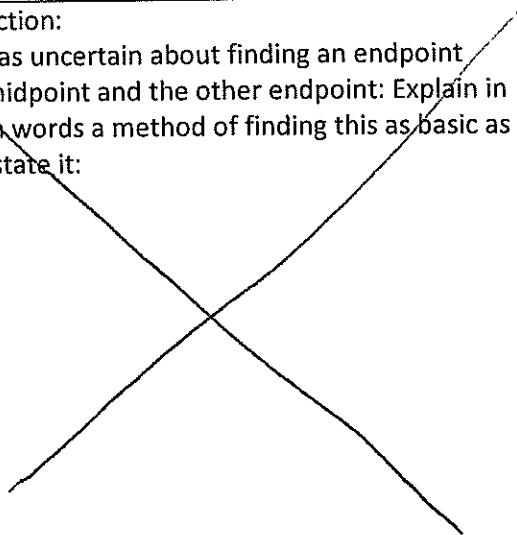
b) Sketch the line:



c) What do we call this kind of line?

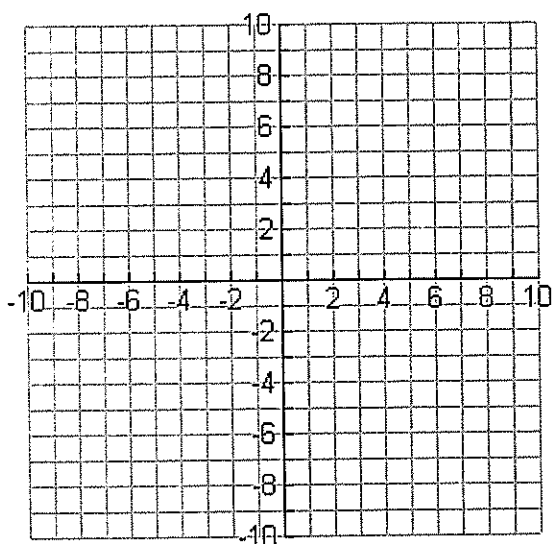
11. Reflection:

Tomas was uncertain about finding an endpoint given a midpoint and the other endpoint: Explain in your own words a method of finding this as basic as you can state it:



12. Describe a scenario where knowing the midpoint but not exactly the other endpoint might present itself in your life and what knowing this information can do for you?

13. Graph the coordinates of the two endpoints and find the midpoint: Use midpoint formula $(2, 4)$ and $(4, 8)$



14. Graph the coordinates of the two endpoints and find the midpoint: Use midpoint formula $(-1, 5)$ and $(5, 5)$

